## ABSTRACT OF THE DISCLOSURE

A semiconductor integrated device includes a boron containing layer 4 containing an isotope  $^{10}$  B formed on a semiconductor substrate 1. Neutrons irradiated to the boron containing layer 4 are brought into a reaction with the isotope  $^{10}$  B to emit  $\alpha$  rays which are then rushed into the semiconductor substrate 1 to generate electron - positive hole pairs 8 in a P-N junction layer. Thus, neutrons are detected.